CLAIMS

1. A method for scanning a message-list accessible to a plurality of processors, said method comprising:

       identifying, in said message-list, a message-slot containing a message intended for a recipient processor from said plurality of processors;

       obtaining, from said identified message-slot, information indicative of a location of a succeeding message-slot in said message-list; and

       caching, for retrieval during a subsequent scan of said message-list, said information indicative of said location of said succeeding message-slot.

2. The method of claim 1, wherein obtaining information indicative of said location of said succeeding message-slot comprises obtaining a next-message pointer from said identified message-slot.

3. The method of claim 1, wherein caching said information indicative of said location of said succeeding message-slot comprises storing said information in a memory local to said recipient processor.

4. The method of claim 1, wherein caching said information indicative of said location of said succeeding message-slot comprises:

       determining if a reset condition exists; and

       caching said information if no reset condition exists.

5. The method of claim 4, wherein determining whether a reset condition exists comprises determining whether said information indicative of said location of said succeeding message-slot identifies an invalid location.

6.   The method of claim **4**, wherein determining whether a reset condition exists comprises determining whether a number of scans since a previous occurrence of a reset condition exceeds a threshold.

7.   A method for scanning a message-list accessible to a plurality of processors, said method comprising:

retrieving, from a cache associated with a scanning processor from said plurality of processors, information identifying a starting message-slot; and

beginning a scan of said message-list at said starting message-slot.

8.   The method of claim **7,** wherein retrieving information identifying a starting message-slot comprises retrieving a pointer to a message subsequent to a previous message intended for said scanning processor.

9.   The method of claim **7,** wherein beginning a scan of said message-list comprises:

determining whether a reset condition exists; and

beginning said scan at said starting message-slot if no reset condition exists.

10.   The method of claim **9,** wherein determining whether a reset condition exists comprises determining whether said information indicative of said location of said starting message-slot identifies an invalid location.

11.   The method of claim **9,** wherein determining whether a reset condition exists comprises determining whether a number of scans since a previous occurrence of a reset condition exceeds a threshold.

12.   A data-storage system comprising:

a plurality of processors, each processor having a local memory;

a shared memory accessible to each processor in said plurality of
processors;

a message section in said shared memory, said message section including
a message-list having an ordered sequence of message-slots, each of
said message-slots including information identifying a succeeding slot
in said message-list.

13. The data-storage system of claim **12**, wherein said local memory comprises a
cache for storage of said information identifying a succeeding slot.

14. The data-storage system of claim **13**, wherein said cache comprises a look-ahead
pointer identifying said succeeding message-slot.

15. The data-storage system of claim **14**, wherein said local memory comprises a
counter indicating an interval since a scanning processor encountered a message-
slot containing a message for which said scanning processor was an intended
recipient.

16. The data-storage system of claim **15**, wherein said counter indicates a number of
scans since a scanning processor encountered a message-slot containing a
message for which said scanning processor was an intended recipient.

17. The data-storage system of claim **12**, wherein said local memory further
comprises a reset-detecting process configured to detect a reset condition.

18. The data-storage system of claim **17**, wherein said reset-detecting process is
configured to compare a reset threshold with an interval since a scanning
processor encountered a message-slot containing a message for which said
scanning processor was an intended recipient.

19. The data-storage system of claim **18**, wherein said reset-detecting process is
configured to declare a reset condition when said interval exceeds said reset
threshold.

20.   The data-storage system of claim **18**, wherein said reset-detecting process is configured to detect whether said information identifying a succeeding slot in said message-slot is invalid.

21.   The data-storage system of claim **20**, wherein said reset-detecting process is configured to declare a reset condition when said information identifying a succeeding slot in said message-list is invalid.

22.   A computer-readable medium having encoded thereon software for scanning a message-list accessible to a plurality of processors, said software comprising instructions for:

>   identifying, in said message-list, a message-slot containing a message intended for a recipient processor from said plurality of processors;

>   obtaining, from said identified message-slot, information indicative of a location of a succeeding message-slot in said message-list; and

>   caching, for retrieval during a subsequent scan of said message-list, said information indicative of said location of said succeeding message-slot.

23.   The computer-readable medium of claim **22**, wherein said instructions for obtaining information indicative of said location of said succeeding message-slot comprise instructions for obtaining a next-message pointer from said identified message-slot.

24.   The computer-readable medium of claim **22**, wherein said instructions for caching said information indicative of said location of said succeeding message-slot comprise instructions for storing said information in a memory local to said recipient processor.

25.   The computer-readable medium of claim **22**, wherein instructions for caching said information indicative of said location of said succeeding message-slot comprise instructions for:

determining if a reset condition exists; and

caching said information if no reset condition exists.

26. The computer-readable medium of claim **25**, wherein said instructions for determining whether a reset condition exists comprise instructions for determining whether said information indicative of said location of said succeeding message-slot identifies an invalid location.

27. The computer-readable medium of claim **25**, wherein said instructions for determining whether a reset condition exists comprise instructions for determining whether a number of scans since a previous occurrence of a reset condition exceeds a threshold.

28. A computer-readable medium having encoded thereon software for scanning a message-list accessible to a plurality of processors, said software comprising instructions for:

retrieving, from a cache associated with a scanning processor from said plurality of processors, information identifying a starting message-slot; and

beginning a scan of said message-list at said starting message-slot.

29. The computer-readable medium of claim **28,** wherein said instructions for retrieving information identifying a starting message-slot comprise instructions for retrieving a pointer to a message subsequent to a previous message intended for said scanning processor.

30. The computer-readable medium of claim **28,** wherein said instructions for beginning a scan of said message-list comprise instructions for:

determining whether a reset condition exists; and

beginning said scan at said starting message-slot if no reset condition exists.

31. The computer-readable medium of claim **30**, wherein said instructions for determining whether a reset condition exists comprise instructions for determining whether said information indicative of said location of said starting message-slot identifies an invalid location.

32. The computer-readable medium of claim **30**, wherein said instructions for determining whether a reset condition exists comprise instructions for determining whether a number of scans since a previous occurrence of a reset condition exceeds a threshold.